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ABSTRACT

Study skills instruction is notably absent from the content area classrooms that are their natural home. This situation can change if reading teachers work to implement eight steps to a successful study skills program: (1) listen to teachers and students who know best which study skills should be emphasized; (2) respond by arranging inservice workshops for content area teachers emphasizing ways to teach students the necessary study skills; (3) provide practical tools for solving specific content area study skills problems; (4) lighten the load, reminding teachers that study skills instruction now will make learning and teaching easier the rest of the year and in the future; (5) elicit cooperation by encouraging teachers to incorporate study skills objectives into their written curriculum goals, rather than stringently assigning them; (6) encompass the entire school in the program and make available reference works, consultants, and a conspicuous commitment to inservice education; (7) share successes and failures; and (8) experiment with new instructional techniques until the program develops and improves. (HTH)

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# Study Skills Throughout the Curriculum:

# Steps to Success

Paper presented at the Annual Meeting of the Eastern Regional Conference of IRA
Boston December 5, 1982

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Few content area teachers will argue that study skills instruction is unnecessary or undesireable. Nevertheless, study skills are often neglected when objectives are formulated and instructional practices established. The sad result is that study skills instruction is notably absent from the content area classrooms which are their natural home. This situation is changed when eight steps to a successful study skills program are implemented. The eight steps are outlined here; each school must provide its own patience, good-nature, energy, faith and persistence.

Step 1. LISTEN.

No definition of or parameters for study skills will be presented here. The study skills that should be emphasized are unique to each content area, to the school, to the students and to the teachers involved. Which skills will be emphasized should be determined by listening to the people who know best: teachers and students themselves. I've been listening to teachers and they tell me that central office personnel often make the decision regarding what study skills should be taught--based upon theoretical or idiosyncratic considerations rather than on realistic evaluations of students' needs.

A broad overview of teachers' views can be obtained through "needs analysis." A questionnaire is distributed to assess how teachers perceive students' abilities to outline, recall a series of facts, take notes, determine cause and effect relationships, etc. This survey method has one advantage: it formalizes the administration's support for a study skills program. This may be sufficient

reason for its use. However, such a formal approach has several disadvantages. First, it narrows the focus to those study skills which are included on the survey instrument. Second, it takes time to develop, distribute, analyze and interpret a valid instrument. Third, it often appears that the results of the surveys vary according to the whims of the analyzer. Last, the response rate is often low since content area teachers are often absent-minded or belligerently neglectful about returning the instruments.

The alternative? Teachers are generally quite articulate about study skills needs, if someone is willing to listen. Teachers are good listeners and students have told them, in one way or another, what skills are wanting. Department chairpersons can be counted on to synthesize teachers' orally transmitted data and to present it to central office personnel.

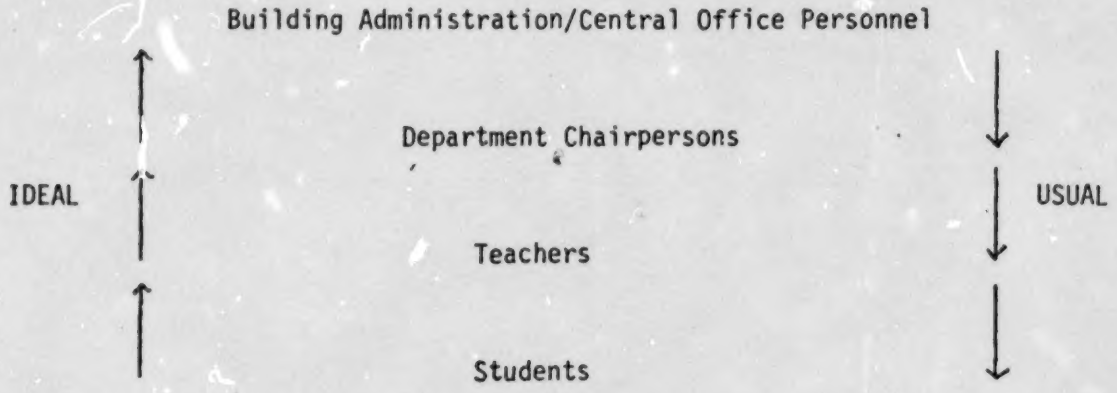


Figure 1. Information Flow

Step 2. RESPOND.

This step is really fairly simple if Step 1 has been completed with sensitivity and good-faith. Give content area teachers the assistance they need to teach students the study skills THEY need. Inservice workshops answer the need. There seem to be four characteristics to a successful response.

- o Immediacy--a program offered three years after a needs analysis may no longer meet students' needs.
- o Specificity--if teachers say they need to teach outlining skills, a vocabulary program will be perceived as superfluous.
- o Energy and Enthusiasm--always a necessity in providing inservice work.
- o Sensitivity to teachers' fears/concerns--teachers need to know what they can expect and what will be expected.

Who should provide the ideas that drive the inservice? Suggestions from content area teachers themselves will have the greatest impact upon their peers' teaching habits. Teachers will develop the level of expertise required for effective peer teaching where experimentation in study skills instruction within content classrooms is condoned, even encouraged.

Initially, reading specialists may provide suggestions gathered from the various content area reading/study skills methods books (see Useful References). Central Office Personnel will often provide inservice sessions or control the hiring of outside consultants. Although the transfer of information from consultant to classroom might be minimal, careful selection of knowledgeable experts shows administrative support for the study skills program and begins the necessary dialogue.

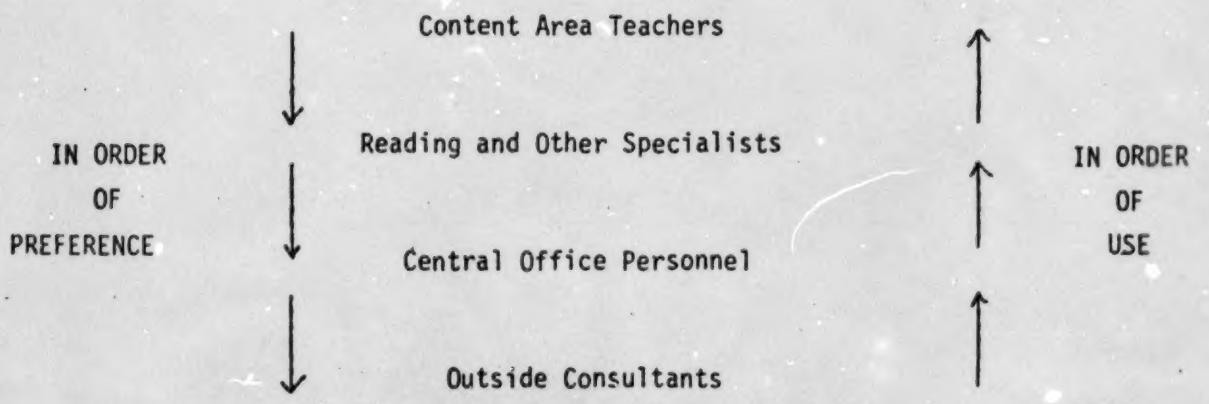


Figure 2. Who should give inservice presentations?

Step 3. PROVIDE PRACTICAL TOOLS

Inservice presentations should be geared to solving specific content area study skills problems. Materials should be geared to current topics if at all possible (which is one reason why peer inservice is so effective). In a variation of the "make and take" sessions offered to elementary teachers, secondary content area teachers appreciate learning about strategies which can be used as is the very next class session. Some samples of programs can be found in the Appendix.

One way to check whether a particular strategy is really practical is to model its use with teachers. Inservice simulations have been known to turn tough critics into great study skills teachers.

Step 4. LIGHTEN THE LOAD

Teachers fear that new programs will result in more work for them, more content for the student to cover, and/or less support for "mainstream" curriculums. If the preceding steps have been followed, teachers fears should be minimal. The most imprtant message is that study skills instruction now will make learning and teaching easier the rest of the year and in future years.

Step 5. ELICIT COOPERATION

If Steps 1-4 flow as smoothly as they should and content area teachers are happily implementing study skills programs throughout the curriculum, the time may be right for formalizing the marriage between content area and study skills. Specifically, teachers might want to incorporate study skills objectives into their written curriculum goals. This is a time for infinite tact and patience. Teachers should be polled as to what they feel they need and want to accomplish in the area of study skills. What do teachers feel competent to achieve and what are they willing to work to achieve? Study skills objectives will be incorporated into content area classrooms where a spirit of cooperation exists.

Assigning skills to content areas and/or teachers will eliminate all the good attained by following Steps 1-4.

Step 6. THINK BREADTH AND DEPTH

The ideal study skills program encompasses the total school but focuses on the individual content areas and the individual teacher/student needs. In order to provide both breadth and depth in the study skills program:

- o reference works should be available to all teachers;
- o an ongoing commitment to inservice education should be evident;
- o "consultants"--willing and competent content area teachers--should be available to provide assistance.

Developing study skills which match the content area curriculums must be viewed as a process. The need for instruction in study strategies continues as long as studying content materials continues. More to the point, the need for increased commitment to teaching study strategies correlates with the increasingly complex content offered to students.

Step 7. SHARE

The study skills program will thrive if teachers share successes and failures. Peer group analyses may lead to valid hypotheses regarding principles for successful content/study skills instruction. Peer group ponderings may result in modifications and improvements to even the successful study skills strategies.

Step 8. PRACTICE

Sharing is synonymous with evaluation; evaluation results in improvement. But improvement presupposes constant practice. Teachers who develop content area/study skills materials, write study skills goals and objectives, experiment with new instructional techniques have made a commitment to an excellent program.

This program belongs in every school. If it appears that much of the explanation of the program is in the early steps, that is because it is in the early stages that the most mistakes can be made. Yet it is in the early stages that the potential for a really great program exists. Many resource materials

exist which tell us what study skills can and should be taught in the content area classroom, but we are not often told how to encourage the teaching of those study skills. We need both kinds of information. The resource materials listed below help with the former and the 8 steps presented here address the latter.

Remember to blend all the suggestions with a liberal supply of patience, good-nature, energy, faith and persistence.

## RESOURCES


Askov E. and K. Kamm. Study skills in the Content Areas. Boston: Allyn & Bacon, 1982.

Cunningham, J., P. Cunningham & S. Arthur. Middle and secondary school reading. New York: Longman, 1981.

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Earle, M. Teaching reading and mathematics. Newark, Delaware: International Reading Association, 1976.

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Hafner, L. Developmental reading in the middle and secondary schools. New York: Macmillan, 1977.

Lunstrum, L. & B. Taylor. Teaching reading in the social studies. Urbana, Illinois: ERIC and IRA, 1978.

Piercey, D. Reading activities in content areas. Boston: Allyn and Bacon, 1982.

Robinson, H. Teaching reading, writing, and study strategies: The content areas. Boston: Allyn & Bacon, 1983.

Readence, J., T. Bean, & R. S. Baldwin. Content area reading. Dubuque, Iowa: Kendall/Hunt, 1981.

Singer, H. & D. Donlan. Reading and learning from text. Boston: Little, Brown & Co., 1980.

Smith, C., S. Smith & L. Mikulecky. Teaching reading in secondary school content subjects. N. Y.: Holt, Rinehart & Winston, 1978.

Thelan, J. Improving reading in science. Newark, Delaware: International Reading Association, 1976.

Thomas, E. and H. A. Robinson. Improving reading in every class. Boston: Allyn & Bacon, 1982.

Vacca, R. Content area reading. Boston: Little, Brown & Co., 1981.

APPENDIX
Content Area Inservice Workshops
Samples

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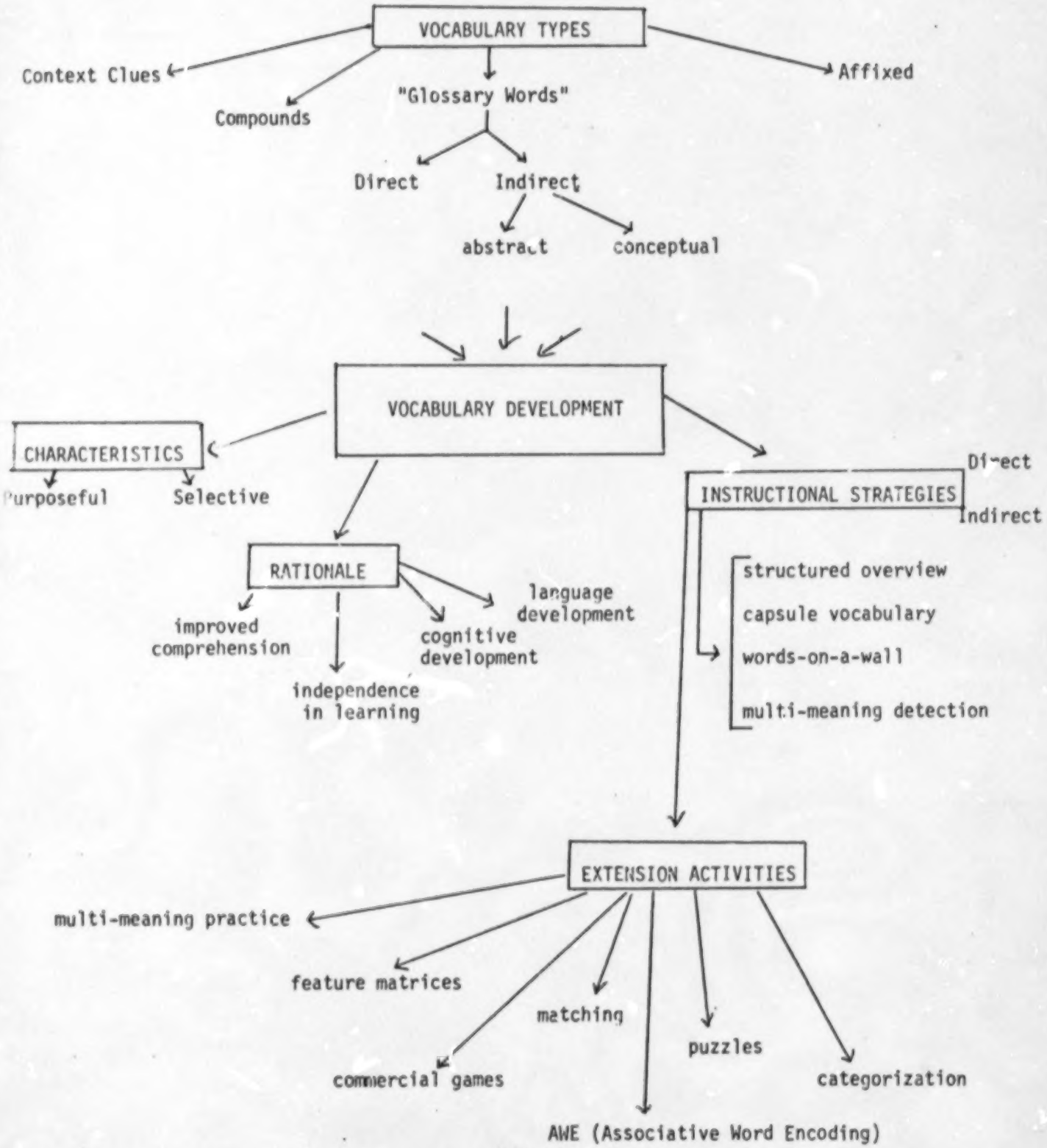
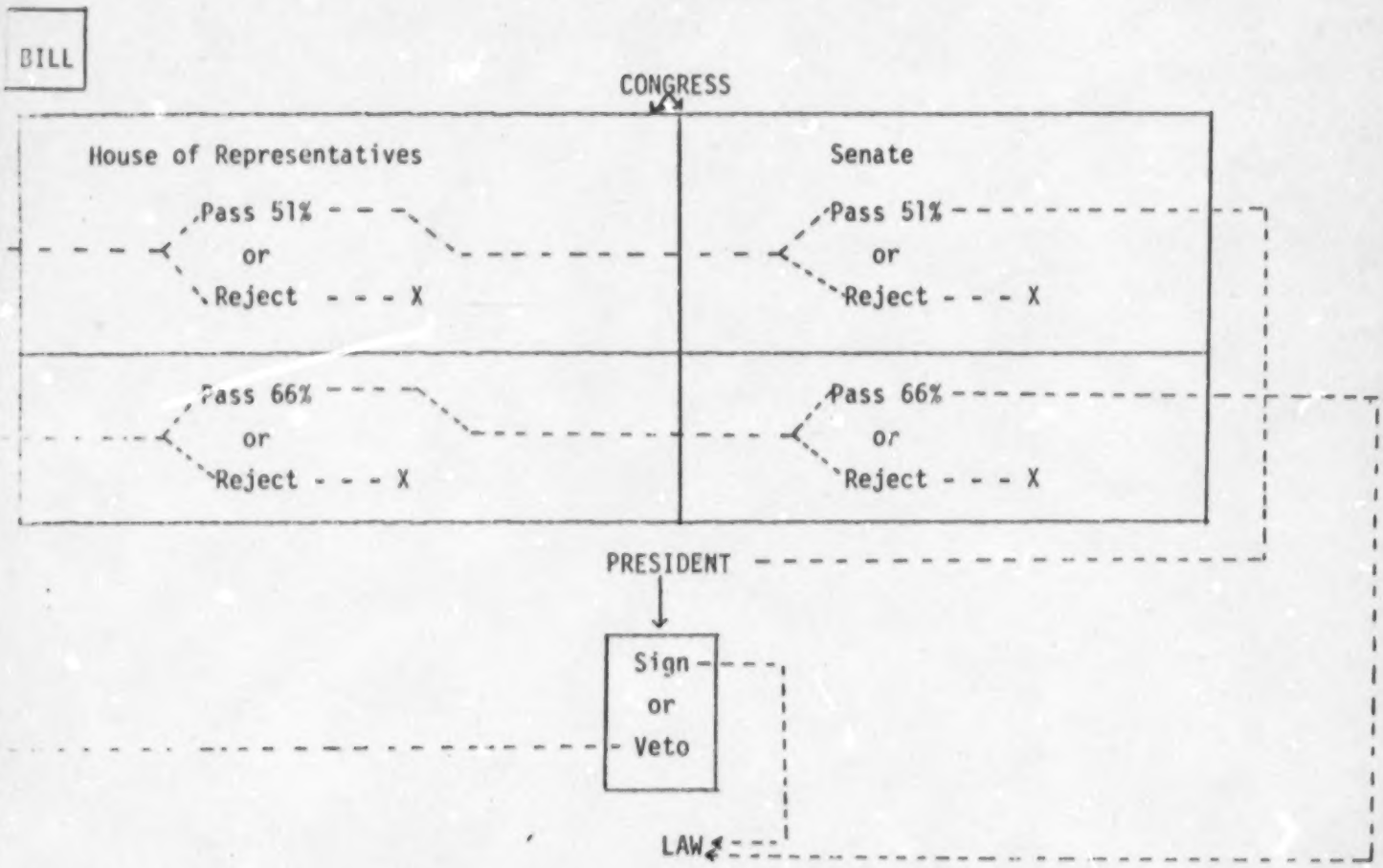





See references for descriptions, particularly Cunningham, Arthur & Cunningham.

STUDY GUIDE:

HOW A BILL BECOMES LAW




Directions:

1. Look at the chart above.
2. Place a check-mark before the statements with which you agree in the column marked "individual"
3. When instructed, get into small groups and, as a group, reach a consensus on each of the statements. Remember, you must get each of your group members to agree on each item. Place your answer in the column marked "group."

LEVEL 1: What does the diagram show?

| Individual | Group | |
|---|---|---|
| ____ | ____ | 1. A law is called a bill before it is a law. |
| ____ | ____ | 2. Congress makes laws. |
| ____ | ____ | 3. Both houses of Congress must pass a law. |

Level 2: What does the diagram mean?

| Individual | Group | | |
|---|---|---|---|
| _____ | _____ | 1. | A majority is needed to pass a law. |
| _____ | _____ | 2. | A rejection by the House of Representatives or the Senate kills a bill's chances of becoming law. |
| _____ | _____ | 3. | A veto by the president kills a bill's chances of becoming a law. |
| _____ | _____ | 4. | The president's signature is necessary in order for a bill to become law. |
| _____ | _____ | 5. | A two-thirds vote in both houses of Congress is necessary to pass a law over the president's veto. |
| _____ | _____ | 6. | The president is part of the legislative process. |
| _____ | _____ | 7. | Congress is the legislative branch of the national government. |

Level 3: Applying the knowledge learned.

As a group, discuss and write out an answer to the following question.

Why is a sixty-six percent (66%) vote of both houses needed to pass a law over the president's veto, when only a fifty-one percent (51%) vote is necessary to pass a law on to the president?

A. From Modern School Mathematics, Book I, p. 340.

DIVIDING BY A COUNTING NUMBER

Compare the two processes shown below.

| | |
|---|---|
| 1. $3\overline{)4.83}$ | 1. $\frac{4.83}{3}$ |
| 2. $3\overline{)4.83}$ | 2. $\frac{4.83}{3} \times 100 = \frac{483}{3}$ |
| 3. $3\overline{)483}$ | 3. $\frac{483}{3} = 161$ |
| 4. $3\overline{)4.83}$ | 4. $161 - 100 = 1.61$ |

Because you have multiplied by 100 in Step 2 and divided by 100 in Step 4, you have just multiplied the quotient by $\frac{100}{100}$, or 1.

Thus, when you write the division algorithm as shown at the left above, you place the decimal point in the numeral for the quotient directly above the decimal point in the numeral for the dividend.

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B. From Modern Algebra, Book I, p. 45.

Application of the $RQ_4S_2T$ Formula

1. R: Read carefully. Note that all quanities are in the same unit, milligrams.
2. $Q_1$: What facts are given? These are numbered and underlined in the problem.
3. $Q_2$: What do I have to find out? See the last part of the last sentence.
4. $Q_3$: What shall I let x equal?
   x = milligrams in a cup of coffee
5. $Q_4$: How shall I represent other information in the problem?
   x - 20 = milligrams in tea
   x - 85 = milligrams in cola
6. $S_1$: Set up the equation. See sentence 3:

| 1 cup of tea | and | 4 cola drinks | contains the same amount of caffeine as | one cup of coffee |
|---|---|---|---|---|
| x - 20 | + | 4 (x - 85) | = | x |

7. $S_2$: Solve the equation:

$$x - 20 + 4x - 340 = x$$
$$4x = 360$$
$$x = 90$$

8. T: Test answers:

$$90 - 20 + 4(90 - 85) = 90$$
$$70 + 20 = 90$$
$$90 = 90$$

THEREFORE: one cup of coffee contains 90 milligrams of caffeine.

Problem:

A cup of (1) coffee contains 20 more milligrams of caffeine than a cup of tea and (2) 85 more milligrams of caffeine than the average cola drink. (3) If one cup of tea and four cola drinks contain the same amount of caffeine as one cup of coffee, how many milligrams of caffeine are there in one cup of coffee?

C. From Modern School Mathematics, Book II, p. 113.

Problem:

If it takes 2 1/2 ounces of insecticide to make 5 gallons of a lawn spray, how many gallons of lawn spray can you make with 8 ounces of the insecticide?

Step 1. Read to get an overview.

Step 2. What facts are given?

Step 3. What is the question?

Step 4. What mathematical operations must I use?

Step 5. In what order should I do the above operations?

Step 6. What is a reasonable estimate of the answer?

Step 7. Solve the problem; compare the answer to the estimate.

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D. Sample Directed Problem-Solving.

A living room is 16 ft. by 20 ft. The rug, also rectangular, measures 12 ft. by 15 ft. How many square feet of floor remains uncovered by the rug?

1. In the space below, draw a rectangle to represent the living room.
2. Label the length and width of the room.
3. Draw in the rug. Label the length and width of the rug.
4. What does the problem ask you to find? Shade this part in your drawing.
5. What relationship are you dealing with in this problem?

   ____Floor area plus rug ____Floor area minus rug area

   ____Floor area times rug area ____None of these

6. Solve the problem and label your answer.

---

E. Guiding Questions for Reading--Ratio and Proportion (Basic Text, pp. 123-125)

Perceiving Symbols

Observing carefully the sight and sound of the key terms in the left-hand column, match each term with the best description from the right-hand column. Work with your partner. You must reach agreement.

| | |
|---|---|
| _____ratio | a. is to |
| _____extreme | b. three syllables |
| _____proportion | c. Horatio |
| _____products test | d. plural |
| _____ : | e. rhymes with cream |
| _____ means | f. two separate words |

Attaching Literal Meaning

With reference to Chapter 6, Sections 2 and 3 of your basic text, verify or reject each of the following. Use "V" for verification and "R" for rejection. You must be able to prove your choices by reading from the text and you must reach agreement with your partner.

_____A ratio is the comparison of one number to another by division.

_____A proportion consists of two equal ratios.

_____The symbol :: indicates an equality of ratios.

_____The best way to determine true proportions is to use the products test.

_____The term extremes means the two greatest numbers in a proportion.

Analyzing Relationships (Interpretive)

Based on your study of ratio and proportion thus far, which of these statements so you think are true? You must explain your decisions.

_____1/15 represents a ratio.

_____ratio :proportion::dimension:volume

_____2/3 = 4/6 is a false proportion

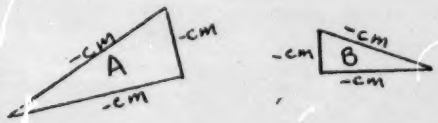
_____The products test is really only cross multipication

_____For true proportions, the means equal the extremes, with <u>one</u> exception

_____Means are always numerators;extremes are always denominators.

Solving Word Problems (Applied)

Are these two triangles proportional?




Hint _____:_____::_____:_____

You must show your work in order to explain your thinking and prove your solution.